



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO. 08/022,770	FILING DATE 03/21/97	FIRST NAMED INVENTOR INDECK R	ATTORNEY DOCKET NO. 976149
-------------------------------	-------------------------	----------------------------------	-------------------------------

RICHARD E HAFERKAMP
HOWELL & HAFERKAMP
7733 FORSYTH BOULEVARD
SUITE 1400
ST LOUIS MO 63105

LM11/0130

EXAMINER KLIMOWICZ, W

ART UNIT 2754	PAPER NUMBER 3
------------------	-------------------

DATE MAILED: 01/30/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

See attachments

Office Action Summary

Application No.
08/822,778

Applicant(s)

Index

Examiner
William J. Klimowicz

Group Art Unit
2754



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-29 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-29 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2754

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 23 (line 2), the phrase "the pairs of pole pieces" lacks proper antecedent basis.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 18-25 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Jeffers (US 4,908,724).

Jeffers (US 4,908,724) discloses a thin film magnetic recording head with an integrally formed, magnetically energized, preconditioning gap (24). The head comprises a write gap (26) aligned with the preconditioning gap (24). The preconditioning gap (24) is wider than the write gap (26). Each of the gaps (24, 26) comprise a pair of pole pieces (e.g., see FIG. 2) surrounding

Art Unit: 2754

a winding coil (34). The gaps (24, 26) share a common pole piece (36), the head thereby having three pole pieces to form the two gaps (FIG. 2). The pairs of pole pieces surround a portion of the same winding head coil (34), the head thereby having a single winding head coil to energize both of the gaps (24, 26). The pole pieces comprise a first pole piece P1 (left side pole in FIG. 2), a second pole piece P2 (36) having the coil wrapped therearound and having an end thereof magnetically coupled to P1, and a third pole piece P3 (22) having an end thereof magnetically coupled to P2 (FIG. 2). P3 (22) is magnetically coupled to P2 (36) through a portion of P1. The write gap is between about .10 microns and about .25 microns in width (e.g., see COL. 3, line 17) and the preconditioning gap is wider than the write gap. The center pole piece (36) forms part of the magnetic circuit for each of the gaps (24, 26). The gaps (24, 26) are formed between a pole tip of each of the pole pieces, the pole tips having a preselected width, as desired. The pole pieces are aligned, and overlies each other and the coil in an integrated structure. The second pole piece P2 overlies a portion of the coil and is magnetically coupled to P1 at a medial position thereof through a center of the coil, and the third pole piece P3 overlies P2 and is magnetically coupled to an end thereof. P3 is magnetically coupled to P1 at an end thereof to substantially surround P2 and the coil between them. The magnetic recording head is a ring head.

4. Claims 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Russian Patent Application (287125).

A magnetic recording head is provided having a write gap (4) and an adjacent gap (between poles (1) and (2)) whose magnetic flux interacts with the write gap flux to produce an

Art Unit: 2754

increased magnetic write field gradient. A coil (6) is provided for magnetically energizing the adjacent gap. The same coil energizes both the write gap and the adjacent gap.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffers (US 4,908,724).

See the description of Jeffers (US 4,908,724) in paragraph 3, supra.

With regard to claim 1 and 11, Jeffers (US 4,908,724) remains silent with respect to the head being a thin film head.

Official notice is taken that magnetic heads of the type disclosed by Jeffers (US 4,908,724) wherein the head is of thin film structure (inclusive of a substantially helically wound pancake coil) are notoriously old and well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the magnetic recording head of Jeffers (US 4,908,724) as being a thin film head. The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the magnetic recording head of Jeffers (US 4,908,724) as being a thin film head (inclusive of a

Art Unit: 2754

substantially helically wound pancake coil) in order to produce the head in a batch fabricated manner, ensuring high yield and smaller head construction, as is well known, established and appreciated in the art.

With regard to claim 10, Jeffers (US 4,908,724) does not expressly show the preconditioning gap as being approximately .5 micron in width.

Official notice is taken of the fact that it is notoriously old and well known in the magnetic head art to routinely modify a magnetic head structure in the course of routine optimization/experimentation and thereby obtain various standard optimized relationships including those set forth in claim 10.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the magnetic head of Jeffers (US 4,908,724) satisfy the relationships set forth in claim 10. The rationale is as follows: one of ordinary skill in the art would have been motivated to have had the magnetic head of Jeffers (US 4,908,724) satisfy the relationships set forth in claim 10 in order to optimize the bias field and further since it is notoriously old and well known in the magnetic head art to routinely modify a magnetic head structure in the course of routine optimization /experimentation and thereby obtain various standard optimized relationships including those set forth in claim 10. Moreover, absent a showing of criticality (i.e., unobvious or unexpected results), the relationships set forth in claim 10 is considered to be within the level of ordinary skill in the art.

Art Unit: 2754

Additionally, the law is replete with cases in which when the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the Applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions. See Gardner v. TEC Systems, Inc., 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452 (fax number (703) 308-9051 or (703) 308-9052).

Serial Number: 08/822,778

Page 7

Art Unit: 2754

Any inquiring of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

A handwritten signature in cursive script, reading "William J. Klimowicz". The signature is written in dark ink and is positioned above the printed name.

William J. Klimowicz

Patent Examiner

Art Unit 2754

WJK

January 20, 1998